



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1459  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/918,410	07/30/2001	William J. Benton	3259.00016	4598

28318 7590 01/02/2004  
BANNER & WITCOFF LTD.,  
ATTORNEYS FOR CABOT CORP.  
28 STATE STREET - 28TH FLOOR  
BOSTON, MA 02109

EXAMINER

TUCKER, PHILIP C

ART UNIT PAPER NUMBER

1712

DATE MAILED: 01/02/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

09/918,410

Applicant(s)

BENTON ET AL.

Examiner

Philip C Tucker

Art Unit

1712

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 7/14/93
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-36 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1-13, 32, 33 and 35 is/are allowed.
- 6) ☒ Claim(s) 14-31, 34 and 36 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. §§ 119 and 120

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.  
a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 9.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

## DETAILED ACTION

### *Claim Rejections - 35 USC § 112*

1. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

2. Claims 14, 15, 17-27, 29-31, 34 are rejected under 35 U.S.C. 112, first paragraph, because the specification, while being enabling for alpha, beta unsaturated carboxylic acid compounds, does not reasonably provide enablement for alpha, beta unsaturated carbonyl compounds. The specification does not enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention commensurate in scope with these claims. Applicants claiming of alpha, beta unsaturated carbonyl compounds is far greater in scope than the alpha, beta unsaturated carboxylic acid compounds which are taught in applicants specification. Such carbonyl compounds would include ketones, aldehydes, acrylamides, etc. which are not taught or contemplated by applicants specification, and the possible scope would be infinite. The prior art is also not replete with such use of the present polymers comprising the alpha, beta unsaturated carbonyl compounds in the compositions taught herein, so as to instantly envisage such polymers to one of ordinary skill in the art. One of ordinary skill in the art would require undue experimentation to determine which of such carbonyl compounds would be useful in the present invention, and to determine how to make and use the polymers formed by such carbonyl compounds..

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:  
The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claims 14-27, 29-31, 34 and 36 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The claims each teach an alpha, beta unsaturated carbonyl compound as a component. Since the methacrylic and acrylic esters are all alpha, beta unsaturated carbonyl compounds, it is not clear if the claim is satisfied by the combination of the AMPS and ester compounds only.

In claim 20, 29, 30 and 36, the percentages add up to more than 100% when either of the two first are at a level such as 95%. The scope of the claims are thus not clear.

***Claim Rejections - 35 USC § 103***

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 28-30 and 36 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fan et al (US 4599390).

Fan teaches a water soluble polymer, which can comprise Amps, acrylamide, carboxylic acid and a hydrophobic acrylate or methacrylate monomer (see claims 2, 5 and 6). The carboxylic acid (acrylic acid exemplified, see claim 8) or acrylamide satisfies an alpha,beta unsaturated carbonyl compound as claimed in the present claims. Fan differs from the present invention in that a specific example of the use of a hydrophobic acrylic or methacrylic ester is not disclosed. It would be obvious to one of ordinary skill in the art to make copolymers according to claim 2, 5, 6 and 8 of Fan, including those which comprise hydrophobic acrylic or methacrylic esters, given the teaching of Fan that such polymers are useful as flocculation agents.

7. Claims 1-13, 32, 33 and 35 are allowable over the art of record.

8. Applicants amendments and arguments are deemed persuasive with respect to the prior art of Chang and Das. Applicants arguments arguments with respect to the issues under 35 USC 112, are not deemed persuasive.

With respect to the issues under 35 USC 112 second paragraph, the fact that certain claimed embodiments teaches more than 100% of the combined components indicates that the subject matter is not particularly pointed out, or distinctly claimed as required by 35 USC 112. Since such embodiments are impossible, the scope of the claims are not clear. With respect to the other issue under 35 USC 112, second

paragraph, applicant has only amended to distinguish over the AMPS monomer, and not the acrylate or methacrylate esters. As such the rejection is maintained.

With respect to the rejection under 35 USC 112, first paragraph, applicant has claimed that the specification is enabling, since it teaches acrylamide at page 2, and incorporates a WO document by reference. The acrylamide taught at page 2 is not taught as a part of applicants invention, but only as part of the prior art. Furthermore, one cannot incorporate essential subject matter by reference to other than a US patent (see MPEP 608.01 (p)). As such the WO document cannot provide support for the broad teaching of an alpha, beta unsaturated carbonyl compound as now claimed. The rejection is thus maintained. A new rejection is presented in view of Fan.


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Philip C Tucker whose telephone number is 571-272-1095. The examiner can normally be reached on Monday - Friday, Flexible schedule.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vasu Jagannathan can be reached on 571-272-1119. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Application/Control Number: 09/918,410  
Art Unit: 1712

Page 5

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0651.



Philip C Tucker  
Primary Examiner  
Art Unit 1712

PCT-2921